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REMARKS

1. This Amendment is responsive to the Office Action mailed March 7, 2006. Claims 1-4 and 13 have been withdrawn. Claims 5-12, 14, and 15 are pending in the present application and have been rejected by the Examiner. Claims 16-20 are new. Through this amendment, the specification, claims 5, 7-10, 14, 15, and abstract have been amended. After entry of this amendment, claims 5-12, 14-20 will remain. The amended claims, new claims, and amended abstract are fully supported by the specification and claims as originally filed, do not include new matter, and are in more readable form. Reconsideration of the present application is requested.

2. The Examiner has rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over

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Lackritz (US 2001/0031122 A1) in view of Bogdanowicz (US 5,555,085 A), stating  
“Regarding claim 5, Lackritz teaches a method of optimizing the performance of a light curing polymer system including multiple component types, ... (¶s 0004, 0007, 0008, 0069), the method of optimizing including the steps of:

- (a) selecting a first component, ... (¶s 0007, 0039);
- (b) selecting a second component of a type different than the type of the first component, ... (¶s 0038, 0040).

Lackritz does not explicitly teach a database.

Bogdanowicz teaches a database as database for storing filter transmittance data from the light source (col. 5, lines 24-32). ”

Claim 5 claims a method of optimizing a photocuring system through the use of a light source component, a substrate component, and a photoinitiator component, where no two components are the same. For example, if a photoinitiator is selected as the first type of

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component, selecting a second photoinitiator as the second type of component is precluded because the second type of component must be different from the first type of component. Claim 5 includes selection of a substrate as a component in the system. Moreover, at least one wavelength of light irradiating the photoinitiator to which the photoinitiator is responsive must have passed through the substrate.

Lackritz teaches the use of two of the same type of component, i.e., two photosensitive molecules. Lackritz, [0038], [0039]. Lackritz teaches also that the exposure is not to be through the substrate but through the photosensitive molecules. Lackritz, Figs. 2c, 2e. Although Lackritz mentions a substrate ([0007]), Lackritz teaches a substrate is optional and if used, could include silicon, which is opaque to wavelengths less than 1 micron (UV and visible light), by which most photoinitiators are activated. Lackritz, [0031].

Bogdanowicz teaches use of a database to select filters for use with a given light source and photographic material to induce integrated exposures in three distinctly different, spectral response regions (red, green, and blue) of the photosensitive material (film) for the purpose of achieving “an acceptable color balance”. Bogdanowicz, col. 3, line 29 – col. 4, line 50. In Bogdanowicz, the user may select only filters (filters are selectable; film and light source are fixed (Bogdanowicz, col. 5, lines 17-19)). Bogdanowicz’s system does not teach the user to select a light source that is optimal for the photosensitive material to be used. Bogdanowicz does not teach exposure of a photosensitive material through a substrate nor, if a substrate were so used, the use of a database to select a substrate through which the photosensitive material is exposed.

Neither Lackritz nor Bogdanowicz teach the presently claimed method of selection of a photosensitive material that is exposable through a substrate. Because neither Lackritz nor Bogdanowicz teach all the elements of Applicants’ claim 5, nor are all the elements of

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Applicants' claim 5 obvious from Lackritz or Bogdanowicz separately or in combination, the Examiner's objections to claim 5 are traversed.

Further, the terms "component" and "component type" as used by Lackritz is different than the definition of those terms in the present claims. As used by Applicants, "component type" is the generic category term encompassing various species (components) within a given "component type". Light source, substrate, and photoinitiator are different component types, and corresponding components would be, for example, infrared, visible, and UV lights (for component type light source); polyester, polycarbonate, polyimide, and BT epoxy (for component type substrate); and Disperse Blue 1 and Methylene Blue (for component type photoinitiator). An example of Applicants' such distinguishing use is "In FIG. 6C, the first component type selected (Substrate) and the specific component (BT Epoxy) are displayed while the user is given the opportunity to select the second component type. Here, the user has selected a photoinitiator." Applicants, [0056] (underlining added).

Also, as meant by Applicants, "element" is interchangeable with "component". Applicants, [0047]. Accordingly, "element type" and "component type" are likewise interchangeable. Examples of distinguishing use of these terms are in Applicants' [0004], [0019] – [0022], [0040], and [0056].

Lackritz uses "type", however, to mean what Applicants designate as "component", for example, regarding first type and second type of photoinitiators. E.g., Lackritz, [0029], [0034], [0037] – [0040], [0056], [0060], [0065], [0066], and [0075]. To better distinguish between the truly different meanings between Lackritz's and Applicants' terminology, Applicants' amended claim 5 uses "type of component" instead of "component type" as well as do claims 8-10, 14, and 15, and the abstract after amendment herein. For this additional reason, the combination of

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Lackritz and Bogdanowicz does not teach or suggest all of the elements of the present claim and the rejection is further traversed for this reason.

Because Applicants' claims 6 - 9 as amended depend from now allowable claim 5, claims 6 - 9 are allowable as well.

3. The Examiner has rejected claim 10 as being unpatentable over Lackritz in view of Bogdanowicz, stating

"Regarding claim 10, Lackritz teaches ... the steps of:

- b). selecting a first component (¶s 0039 and 0056);
- c). selecting a second component (¶s 0048 and 0056);

Lackritz does not explicitly teach the steps of:

- a). storing the characteristics of the constituent in memory, the characteristics including name and wavelength response;
- d). graphically displaying on the same display, the name and wavelength response of the first component and the second component.

Bogdanowicz, however, the steps of:

- a). storing the characteristics of the constituent in memory, the characteristics including name and wavelength response (col. 3, line 6-14; col. 5, lines 57-61);
- d). graphically displaying on the same display, the name and wavelength response of the first component and the second component (col. 5, lines 57-61; col. 6, lines 16-30)."

Claim 10 claims a method of comparing the performance characteristics of two different components of a photocuring system: "... selecting a first component of a first type of component; selecting a second component of a second type of component different from the first type; and

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graphically displaying on the same display, the name and wavelength response of the first component and the second component.” Claim 10 allows a component to be a substrate.

Lackritz teaches the use of two of the same type of component, i.e., two photosensitive molecules. Lackritz, [0038], [0039]. Lackritz does not teach comparing the performance characteristics of a substrate as part of the exposure system. Moreover, Lackritz teaches that the exposure to the light source is not through a substrate but instead directly to the photosensitive molecules. Lackritz, Figs. 2c, 2e. Although Lackritz mentions a substrate ([0007]), Lackritz teaches a substrate is optional and if used, could include silicon, which is opaque to wavelengths less than 1 micron (UV and visible light), by which most photoinitiators are activated. Lackritz, [0031].

Bogdanowicz’s stored constituent characteristics are for three segmented regions (red, green, and blue) of the spectral responses (S(R), S(G), and S(B)) of the photosensitive material. Bogdanowicz, col. 3, lines 6-9; 57-59. Bogdanowicz then calculates integrated exposures, R, G, and B. Bogdanowicz, col. 4, lines 3-29. Thus, Bogdanowicz teaches the use of data for the purpose of determining the integrated exposures in three mutually exclusive, spectral regions of the photosensitive material, not for the purpose of providing maximum energy absorption by the entire spectral response of the photosensitive material.

Moreover, Bogdanowicz stores the combined response of the first and second components, not their individual responses, and then finds a specific filter (a Bogdanowicz “component”) “to balance the light source – photographic material combination.” Bogdanowicz, col. 5, lines 48-52). Thus, Bogdanowicz does not store and enable displaying the wavelength responses of each component individually and instead displays the combined light source–photographic material response.

Lackritz does not teach, suggest, or even intimate comparing the performance

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characteristics of two different components of a photocuring system or exposure through a substrate, nor could one of ordinary skill in the art infer using Lackritz's teachings to expose through a substrate, especially since Lackritz teaches the use of a silicon substrate, which is opaque to most actinic wavelengths of photoinitiators. Bogdanowicz's use of a database of combined component responses if combined with Lackritz would not achieve Applicants' invention of claim 10. Therefore, the Examiner's rejection of Applicants' claim 10 as unpatentable over Lackritz in view of Bogdanowicz is traversed.

4. Claims 11, 12, 14 and 15 have been rejected under 35 U.S.C. 103(a) as unpatentable over Lackritz in view of Bogdanowicz. Applicants traverse the Examiner's objection due to the different meanings of "component" by the Applicants and by Lackritz, where Lackritz is using two components of the same type, as discussed in section 2 above. Accordingly, the combination of Lackritz and Bogdanowicz still does not teach or suggest all of the elements of the present invention and the rejection is traversed. Further, because claims 11,12 and 15 depend from allowable claim 10, the objections to claims 11 and 12 are traversed, and claims 11 and 12 are allowable as well. Because claim 14 depends from allowable claim 5, claim 14 is allowable as well.

5. New claims 16-20 are supported by the specification and claims as originally filed, including, but not limited to, paragraphs [0020], [0021], [0040], [0048], [0049], [0054], [0056]-[0063]. The limitation of exposure of a photoinitiator by the light passed through a substrate distinguishes these claims from both Lackritz and Bogdanowicz, separately or in combination, as discussed above.

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CONCLUSION

In view of the present amendments and remarks, Applicants respectfully submit that the Examiner's assertion, "... that combining Lackritz and Bogdanowicz would have arrived at the claimed invention." has been traversed. Therefore, Applicants' claims are in condition for allowance, and Applicants request that the Examiner pass this application to issuance.

Respectfully submitted,

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